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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,883	12/31/2003	Bonnie I. Wang	A1028	2714
20583	7590	03/08/2005	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			CUNNINGHAM, TERRY D	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/749,883

Applicant(s)

WANG ET AL.

Examiner

Terry D. Cunningham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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## **DETAILED ACTION**

### ***Drawings***

The drawings are objected because Fig. 1 fails to show a connection between elements 106 and 108 or between elements 110 and 112. To be consistent with the specification and the remaining drawings, Fig. 1 should show these connections. Appropriate correction is required.

### ***Claim Objections***

Claims 7 and 8 are objected to for the reasons discussed below.

In claim 7, line 10, for clear antecedent, --output-- should be inserted following “edge”.

In claim 8, line 7, for clear antecedent, --output-- should be inserted following “edge”.

Appropriate corrections for the above discussed objections are required.

### ***Claim Rejections - 35 USC § 112***

Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to adequately disclose how the circuit can be for regulating “AC current” signals, such as disclosed on page 6 and Fig. 2C of the specification. None of the signals shown in Figs. 2B, 2C and 6 are seen to be AC signals. Additionally, it is not in any way seen that the circuit shown in Figs. 1, 2A and 3 can operate with AC signals. If the control signals in Figs. 2B, 2C and 6 or supply voltage signals were AC, then inherently the current would have to reverse causing a voltage less than zero. Thus, it would be seen by one skilled in the art that the disclosed circuit cannot possibly operate with AC control signals or supply voltages.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, lines 4, 10, 15 and 18, each reference to “AC stage” is deemed misdescriptive for similar reasons as discussed above in the non-enablement rejection. In lines 27-31, since it is not physically possible for “outputs” to be connected in parallel, the language therein is not understood. Due to this, the recited stages lack connection or cooperation insofar as understood. It is noted the only elements (i.e., having two or more terminals) can be “coupled in parallel”.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Borkar (USPN 4,975,598). Borkar discloses, in Fig. 3, a circuit comprising: “a first rising edge control circuit (41, 45 and 46)”; “a first falling edge control circuit (43, 47 and 48)”; “a first rising edge output current regulation circuit (37)”; “a first falling edge output current regulation circuit (35)”, “at least a second rising edge control circuit (ST1, 49 and 52-54)”; “at least a second falling edge control circuit (ST2, 51, and 55-57)”; “at least a second rising edge output

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current regulation circuit (36)”; and “at least a second falling edge output current regulation circuit (38)”, all connected and operating similarly as recited by Applicant.

It appears that claims 3 and 5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. None of the cited prior art reference disclose the specifically recited configuration further reciting an “inverter”, “OR gate” and a “NOR gate” and the specific connections therefor.

It appears that claims 11-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. None of the cited references teach a circuit comprising four pairs of “edge control circuits” and two pairs of “edge output current regulation circuits” having the specifically recited connections and operation.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terry Cunningham whose telephone number is 571-272-1742. The examiner can normally be reached on Monday-Thursday from 7:30 to 6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**TC**  
**March 3, 2005**

  
**Terry D. Cunningham**  
**Primary Examiner**  
**Art Unit 2816**